

Powered Mixer Specifications

406M, 408M, 408S, 808M, 808S

Mixer Section:

Frequency Response

Mic Input to Main Mixer Output (Trim at 0 dB):
 +0, -1 dB, 32Hz to 20kHz
 +0, -3 dB, 16Hz to 80kHz

Mic Input to Power Amp Output @ rated power output:
 +0, -1 dB, 32Hz to 20kHz
 +0, -3 dB, 16Hz to 55kHz

Distortion THD and SMPTE IMD; 20Hz to 20kHz

Mic Input to Main Mixer Output:
 < 0.005% @ +4 dBu output

Mic Input to Power Amp Output:
 < 0.15%, 250mW to rated power

Common Mode Rejection Ratio (CMRR)

60 dB @ 1kHz, Trim @ 0 dB

Noise

20Hz to 20kHz BW (150 Ω source impedance)

Equivalent Input Noise (EIN):
 -127 dBu

Residual Output Noise:
 Main Mixer, Monitor, & Effects outputs Channel & Master levels off
 -95 dBu

Main Mixer Output Noise:
 Master @ nominal (-10 dB), all channels off
 -92 dBu

Master & 1 input channel @ nominal
 (-10 dB & -20 dB), Trim @ 0 dB
 -85 dB

Crosstalk

Adjacent Inputs or Input to Output:
 -90 dB @ 1kHz

Fader Off
 -90 dB @ 1kHz

Break Switch Mute
 -80 dB @ 1kHz

Input Level Trim Control Range

0 to -40 dB

Phantom Power

+15V DC

Equalization

Rumble Reduction: 75Hz, -18 dB/octave

Channel EQ:

High	± 15 dB @ 12kHz
Mid	± 12 dB @ 2.5kHz
Low	± 15 dB @ 80Hz

Graphic EQ (9 bands):

Q = 1.414, ISO octave centers

± 15 dB

@ 63, 125, 250, 500 1k, 2k, 4k, 8k, 16k Hz

Main Mixer Section Rated Output

Main Mixer, Monitor, & Effects: +4 dBu

Maximum Main Mixer Section Output: +20 dBu

Maximum Input Levels

Mic Input: -20 dBu, Trim @ 0 dB (HI)
 +20 dBu, Trim @ -40 dB (LOW)

Line Input: 0 dBu, Trim @ 0 dB (HI)
 +40 dBu, Trim @ 40 dB (LOW)

Insert Input: +20 dBu

Stereo Line Input: +20 dBu

Tape Input: +20 dBu

Effects Return: +20 dBu

Power Amp In: +22 dBu

Input Sensitivity

Minimum Input Level to produce +4 dBu @ Main Mixer Output

Mic Input: -68 dBu

Insert Input: -28 dBu

Line Input: -48 dBu

Stereo Line Input: -28 dBu

Tape Input: -18 dBu

Effects Return: -18 dBu

Maximum Voltage Gain

Mic Input to
 Insert Output: 40 dB
 Tape Output: 60 dB
 Main Mixer Output: 72 dB

Line Input to
 Insert Output: 20 dB
 Tape Output: 20 dB
 Main Mixer Output: 52 dB

Stereo Line Input to
 Tape Output: 20 dB
 Main Mixer Output: 32 dB

Tape Input to
 Tape Output: 10 dB
 Main Mixer Output: 22 dB

Effects Return to
 Main Mixer Output: 22 dB
 Monitor Output: 22 dB

Input Impedance

Mic Input: 3 k Ω , balanced
 Insert Input: 10 k Ω , unbalanced
 Line Input: 40 k Ω , balanced
 Stereo Line Input: 10 k Ω , unbalanced
 Tape Input: 10 k Ω , unbalanced
 Effect Return: 10 k Ω , unbalanced
 Power Amp In: 10 k Ω , unbalanced

MIXER SPECIFICATIONS: CHAPTER 12: POWERED MIXERS

Output Impedance

Main Mixer Output:	150 Ω
Insert Output:	150 Ω
Tape Output:	150 Ω
Monitor Output:	150 Ω
Effects Send:	150 Ω
Power Amp Out:	0.032 Ω @ 1kHz

Digital Effects

Resolution:	16-bit, 2-channel
Sample Rate:	31.25kHz
Bandwidth:	15.6kHz

VU Meters

Main and Monitor
8 segments: Clip, +5, 0, -5, -10, -15, -20, -30

Power Amplifier Section:

Maximum Power at 1% THD, midband, both channels driven

406M, 408M, 408S

250 watts per channel into 2 Ω
200 watts per channel into 4 Ω
125 watts per channel into 8 Ω

808M, 808S

600 watts per channel into 2 Ω
450 watts per channel into 4 Ω
300 watts per channel into 8 Ω

Continuous Sine Wave Average Output Power, both channels driven (rated power)

406M, 408M, 408S

180 watts per channel into 4 Ω from 40Hz to 20kHz, with no more than 0.15% THD

110 watts per channel into 8 Ω from 40Hz to 20kHz, with no more than 0.10% THD

808M, 808S

340 watts per channel into 4 Ω from 40Hz to 20kHz, with no more than 0.15% THD

240 watts per channel into 8 Ω from 40Hz to 20kHz, with no more than 0.10% THD

Power Bandwidth

< 10Hz to 30kHz (+0, -1 dB) @ rated power into 4 Ω

Frequency Response

< 10Hz to 30kHz (+0, -1 dB)
< 10Hz to 55kHz (+0, -3 dB)

Distortion

THD, SMPTE IMD:	< 0.10% @ 8 Ω
	< 0.15% @ 4 Ω

Signal-to-Noise Ratio

> 105 dB below rated power into 8 Ω

Channel Separation

> 75 dB @ 1kHz

Damping Factor

> 250 @ 1kHz

Amp Input Impedance

10 k Ω unbalanced, 20 k Ω balanced

Input Sensitivity

406M, 408M, 408S

1.35 volts (+4.8 dBu) for rated power into 4 ohms

808M, 808S

1.76 volts (+7.1 dBu) for rated power into 4 ohms

Gain (Amp In to Speaker Out)

26.4 dB (21V/V)

Maximum Input Level

9.75 volts (+22 dBu)

Rise Time

406M, 408M, 408S

< 5 μ s

808M, 808S

< 6.2 μ s

Slew Rate

406M, 408M, 408S

> 40V/ μ s

808M, 808S

> 50V/ μ s

Load Angle

8(\pm jx) time independent at 8 Ω
4(1 \pm jx) time dependent at 4 Ω

High Frequency Overload and Latching

No latch up at any frequency or level.

High Frequency Stability

Unconditionally stable, driving any reactive or capacitive load

Turn On Delay

3 seconds

AC Power Requirements

United States: 120VAC, 60Hz

Europe: 240VAC, 50Hz

Japan: 100VAC, 50/60Hz

Korea: 220VAC, 60Hz

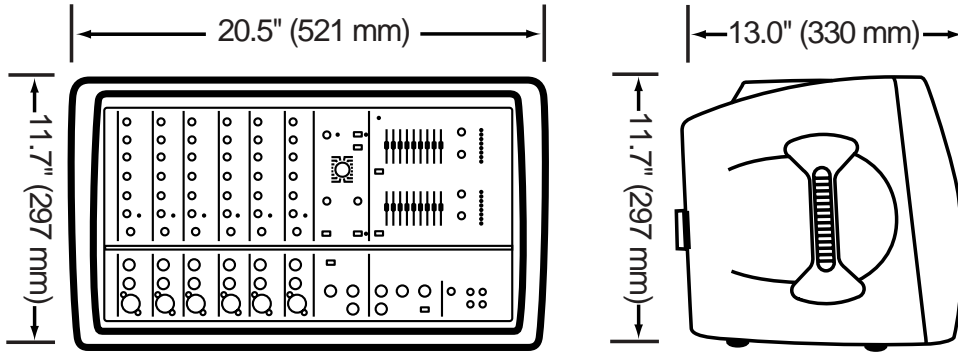
(Capable of operation from 75% to 110% of rated line voltage)

Physical

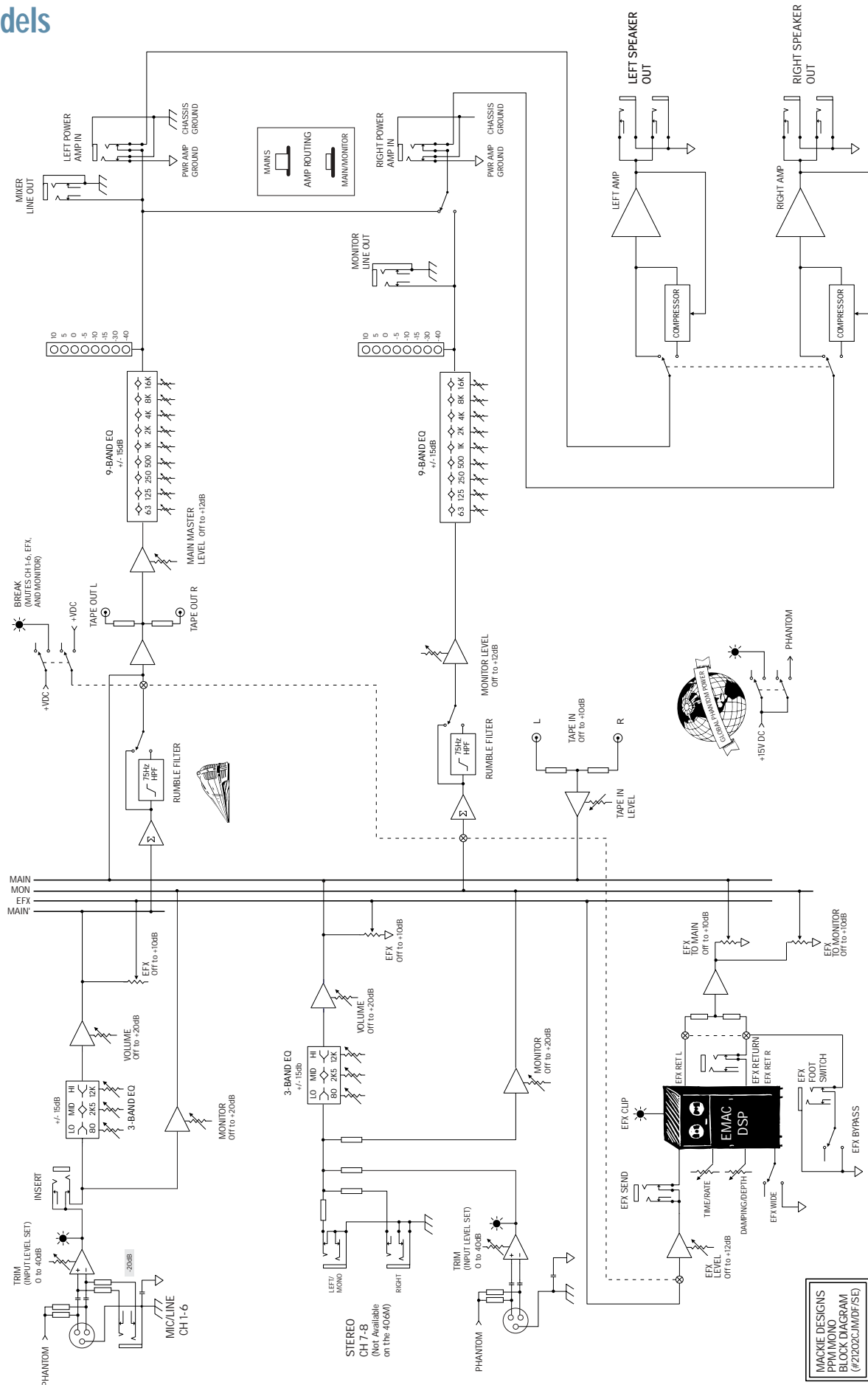
Height:	11.7 inches	(297mm)
Width:	20.5 inches	(521mm)
Overall Depth:	13 inches	(330mm)

Weight:

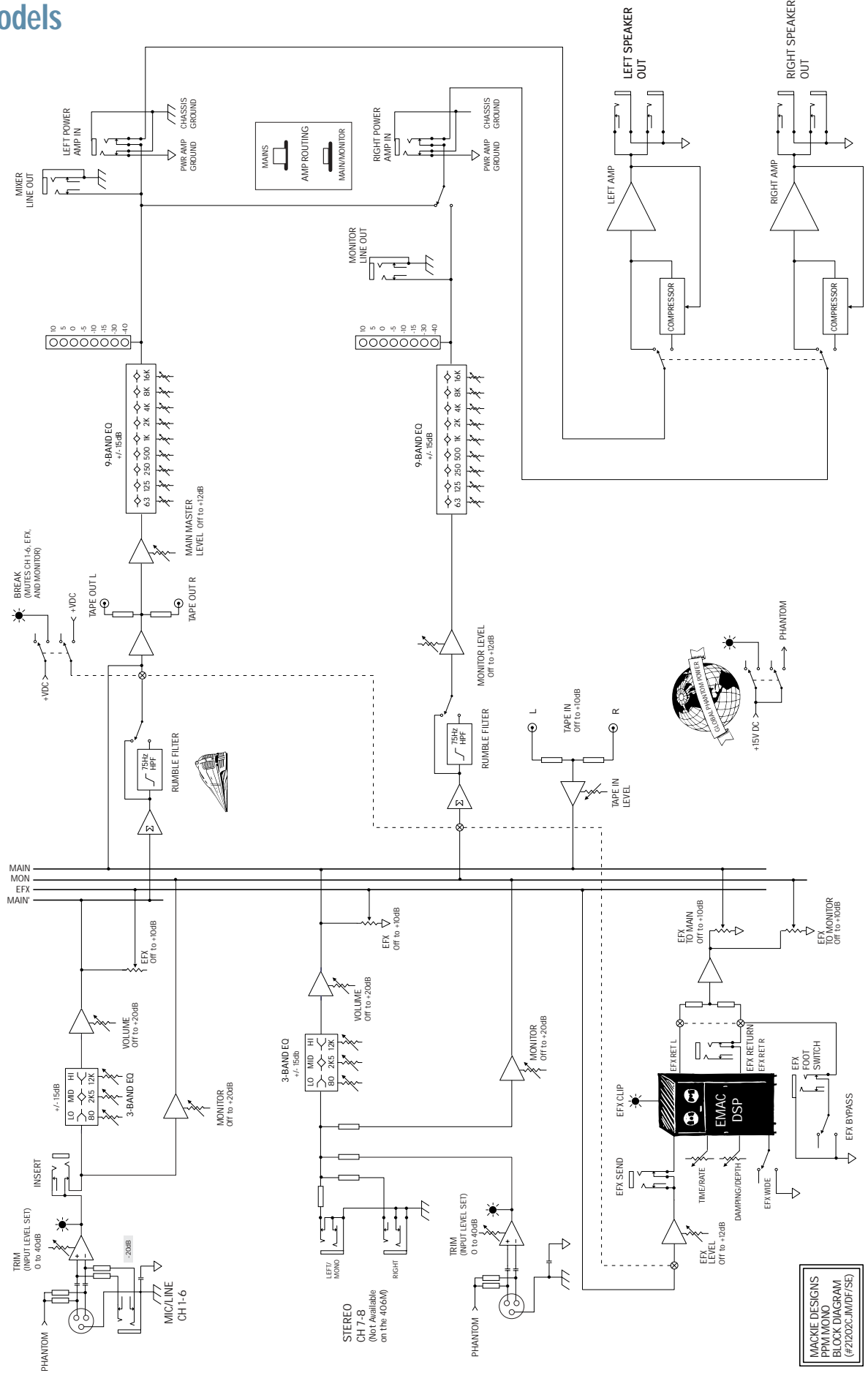
406M, 408M, 408S	32 pounds	(14.5 kg)
808M, 808S	36 pounds	(16.3 kg)



Mono Models

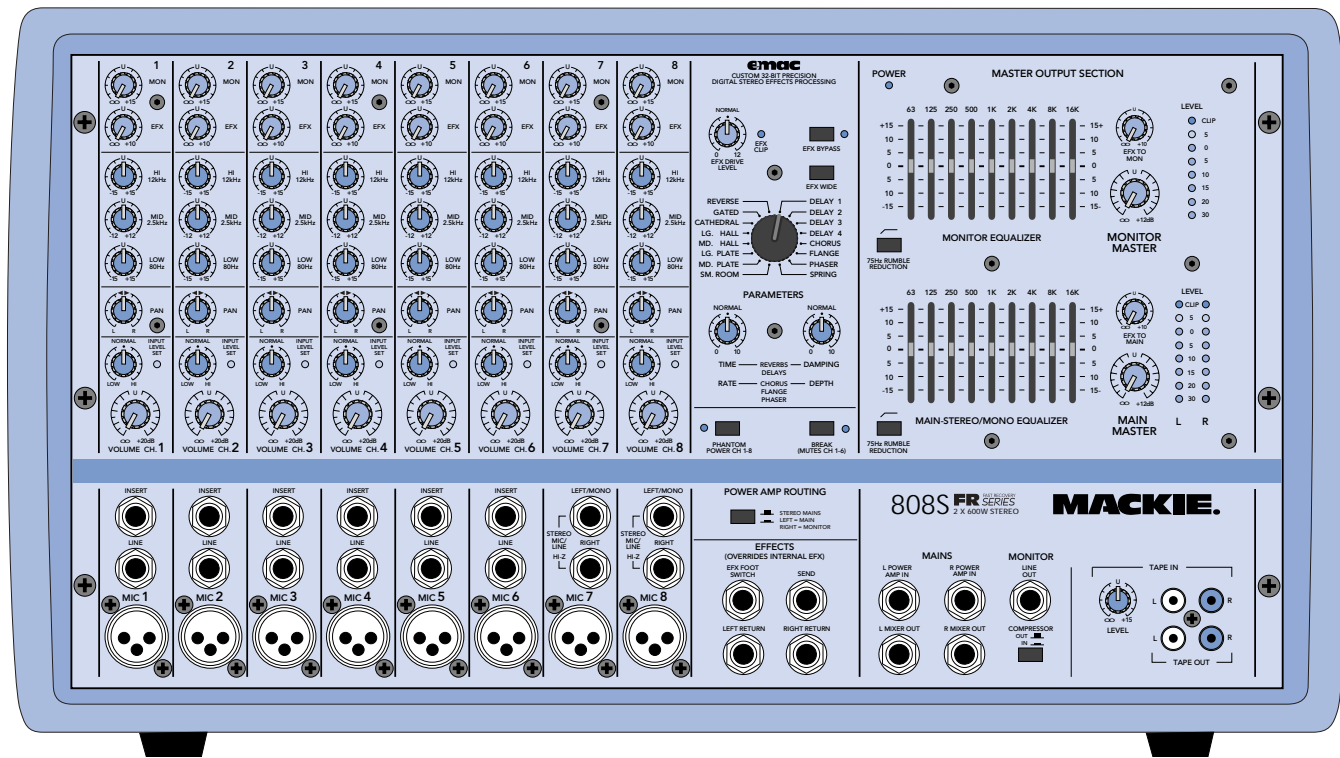


Stereo Models



MACKIE DESIGNS
PPM/MONO
BLOCK DIAGRAM
(#21202C.JMD/FS)

Stereo (808S)



Stereo (408S)



Mono (408M)

